Name:

Pid: \_\_\_\_\_

1. (10 points) Let  $S \subseteq \mathbb{N}$  be a nonempty set. Show that S is decidable iff there is a funciton  $f : \mathbb{N} \to \mathbb{N}$  such that f is computable, f is nondecreasing, and Im f = S.

2. (10 points) Let  $A, B \subseteq \mathbb{N}$  be enumeratable sets. Show that  $A \times B$  is enumeratable.